Copy to Mike Lee

Rcd 7/7/95

Engineers
Planners
Economists
Scientists

5 July 1995

107091.EL.R5 (OPE30702)

Patricia N.N. Young
American Samoa Program Manager
Office of Pacific Islands and Native American Programs
U.S. Environmental Protection Agency
75 Hawthorne Street (E-4)
San Francisco, California 94105

Dear Pat:

Subject: **VCS Samoa Packing Effluent Chemistry Testing**
NPDES Permit No. AS0000027

Enclosed are two copies of a Technical Memorandum describing the results of the fifth priority pollutant analyses done under Samoa Packing's NPDES permit requirements. This report covers the effluent sampling done in March 1995. I am forwarding the results of the StarKist Samoa analyses under separate cover. The results of the concurrent bioassay tests were mailed on 22 June 1995.

The technical memorandum includes a summary of all correspondence with USEPA regarding reviews of previous tests and our responses to comments in these reviews. If you have any additional comments or questions concerning the tests please forward them prior to the next scheduled test so that we may accommodate any required changes in procedures. If there are no additional comments we will conduct the next set of tests in the same fashion as the March 1995 sampling, with changes as indicated in our responses included in the enclosed technical memorandum. The next tests are scheduled for September/October 1995.

CH2M HILL 1111 Broadway, P.O. Box 12681, Oakland, CA 94604-2681 510 251-2426 Fax 510 893-8205

I have sent this information to Sheila Wiegman at ASEPA under separate cover. A copy has been sent directly to Amy Wagner at USEPA. If you have any questions please feel free to call me at your convenience.

Sincerely,

CH2M HILL

Steven L. Costa
Project Manager

cc: James Cox, Van Camp Seafood Company (with 1 copy of enclosure)
Bill Perez, VCS Samoa Packing Company (with 1 copy of enclosure)
Amy Wagner, USEPA Region IX (with 1 copy of enclosure)
David Wilson, CH2M HILL/SEA

Rcd 7/7/95

TECHNICAL MEMORANDUM CH2MHILL

PREPARED FOR: VCS Samoa Packing Company

PREPARED BY: Steve Costa/CH2M HILL/SFO
Karen Glatzel/Glatzel & Associates

DATE: 5 July 1995

SUBJECT: **Chemical Analysis of Effluent**
March 1995 Sampling

PROJECT: OPE30702.EL.T5

Purpose

This memorandum presents the results of the chemical analyses of VCS Samoa Packing Company effluent samples that were collected in March 1995.

Study Objectives

Section D.2 of VCS Samoa Packing's NPDES permit requires that semiannual priority pollutant analyses be conducted on the cannery effluent concurrently with bioassay tests. Effluent priority pollutant analyses include those chemical constituents listed in 40 CFR 401.15. Previous analysis of samples collected did not detect any traces of cyanide, pesticides or PCBs. Since these constituents are not expected to be part of the cannery effluent in the future, the U.S. EPA eliminated these analyses as a permit requirement (See Attachment I, correspondence with EPA). In addition, volatile organics have been detected only sporadically (constituents from laboratory contamination or very small quantities). These constituents are not expected to be found in the cannery effluent and were excluded from further testing. Some metals that have never been detected were also excluded from testing. The constituents currently included in the effluent chemistry analyses are indicated in Table 1. A full priority pollutant scan will be run during the next permit renewal application process.

Each effluent sampling event must coincide with effluent sampling for acute biomonitoring. Effluent samples are collected as composite samples. The purpose of these analyses is to identify the chemicals present in the effluent, and provide data to determine whether the wastewater discharge complies with ambient water quality standards.

Summary of Recent EPA Correspondence

The following descriptions provide a summary of recent correspondence with USEPA regarding the sampling and analyses for priority pollutants for StarKist Samoa and VCS Samoa Packing effluent discharge through the Joint Cannery Outfall. Copies of relevant letters and memorandums are provided in Attachment I as described below:

Attachment 1-A: In a letter dated 17 January 1995, USEPA provided comments, in an enclosed memorandum, on the second and third (October 1993 and February 1994) priority pollutant sampling reports. CH2M HILL provided responses to those comments in a memorandum dated 8 February 1995, transmitted by a letter of the same date. The letters and memorandums are provided in Attachment I-A.

Attachment I-B: In a memorandum dated 17 February 1995, USEPA provided comments on various bioassay studies being done under the NPDES permits. Some of these comments concerned the standard operation procedures (SOP) for effluent sample collection. These comments were addressed and incorporated into a revised SOP which was provided as an attachment to the effluent bioassay report for the March 1995 sampling (CH2M HILL, 20 June 1995). The original EPA memorandum is provided as Attachment I-B.

Attachment I-C: In a letter from USEPA dated 1 March 1995, USEPA responded to the a request from the canneries to eliminate some of the chemistry tests. The requests from the canneries requesting this action was done through CH2M HILL in a letter dated 2 February 1995 stating the reasons for the request. The EPA letter of 1 March approves the request from the canneries. These two letters are provided in Attachment I-C.

Attachment I-D: In a letter of 3 April 1995, USEPA provides comments, in an attached memorandum dated 8 March 1995, on the fourth sampling episode (October 1994) report. The letter provides clarification of the first comments and requests that CH2M HILL respond to or note for future sampling and reports comments 2 though 7. A memorandum to file has been prepared by CH2M HILL responding to those comments and is provided as a part of the report on the March 1995 sampling episode. The letters and memorandums are provided as Attachment I-D.

Methods

Between 0838 on March 23rd and 0550 on March 24th, 1995, a 24-hour, flow-weighted composite sample of final effluent was collected from the VCS Samoa Packing Company treatment plant discharge. Table 1 lists the chemical analyses, method detection/reporting

limits, sample holding times, sample containers, and sample preservations for these effluent samples. Effluent composite samples were collected simultaneously for chemistry and bioassay analyses. The standard operating procedures for the joint cannery outfall chemistry sampling is provided in the Technical Memorandum for the Bioassay Analysis of the Effluent October 1994 Sampling (CH2M HILL, 26 January 1995).

Samples were collected from the established effluent sampling site following the routine composite sample collection schedule for the plant. A total of eight individual grab samples were collected into pre-cleaned glass containers at approximately three-hour intervals over a 24 hour period. The samples were stored on ice until the completion of the 24-hour sampling period, and then a flow-weighted composite sample was prepared. The grab sample collection times and the composite volumes calculated from StarKist Samoa's flow records are summarized in Table 2. These flow records were used to prepare the final composite sample, which was used to fill the sample containers.

Sample containers were wrapped in bubble-wrap, placed in zip-lock bags, and packed on ice for shipment to the laboratory. Sample chain of custody forms were completed and then sealed into zip-lock bags and taped inside the lid of the ice chest. Samples were shipped DHL on flights from Pago Pago to Honolulu and then to San Francisco. Samples that were composited on March 24th, were delivered to GTEL Environmental Laboratories, Inc. on March 27, 1995.

Results

Complete laboratory data sets, laboratory quality control data reports, and chain-of-custody forms are attached to this memorandum. The chain-of-custody form is included in Attachment II and analytical data sheets and quality control data reports are included as Attachment III.

The analyses conducted detected few chemical parameters in effluent from VCS Samoa Packing Company. A total of 4 inorganics and 3 semivolatile organics were detected: arsenic, copper, selenium, zinc, phenol, 4-methyphenol, and total recoverable phenols. Table 3 summarizes the sample results for the substances detected during the March 1995 sample analysis compared to those detected during previous analyses.

Effluent Chemical Analyses
March 1995 Sampling
VCS Samoa Packing Company

Table 1
Effluent Sample Analyses and Handling Procedures
VCS Samoa Packing Company

Chemical Parameter	Analytical Method	Reporting Detection Limits	Sample Holding Time	Sample Container	Sample Preservation
Semivolatile Organics	EPA 625	10 - 50 ug/l	7 days	1-liter amber glass	4 deg. C
Total Recoverable Phenols	EPA 420.1	0.02 ug/l	7 days	500 ml plastic	5 ml H_2SO_4
Inorganics					
Arsenic	EPA 206.2	5 ug/l	6 months	500 ml plastic	5 ml, 2N HNO_3
Cadmium	EPA 200.7	5 ug/l	"		
Chromium	EPA 200.7	10 ug/l	"		
Copper	EPA 220.2	2 ug/l	"		
Lead	EPA 239.2	5 ug/l	"		
Mercury	EPA 245.1	0.4 ug/l	"		
Selenium	EPA 270.1	5 ug/l	"		
Silver	EPA 272.2	2 ug/l	"		
Zinc	EPA 200.7	20 ug/l	"		

Effluent Chemical Analyses
March 1995 Sampling
VCS Samoa Packing Company

Table 2
Effluent Chemistry 24-hour Composite Sample Collection
at VCS Samoa Packing Company, March 23-24, 1995

Grab Sample No.	Sampling Time, Date	Effluent Flow Rate (mgd)	Percent of Total Flow	Volume of Sample (ml)	
				1-liter	500 ml
1	0825, 3/23/95	0.68	14.3	143	71.5
2	1200, 3/23/95	0.62	13.1	131	65.5
3	1510, 3/23/95	0.64	13.5	135	67.5
4	1750, 3/23/95	0.65	13.7	137	68.5
5	2110, 3/23/95	0.65	13.7	137	68.5
6	0000, 3/24/95	0.40	8.4	84	42.0
7	0315, 3/24/95	0.40	8.4	84	42.0
8	0615, 3/24/95	0.70	14.8	148	74.0
TOTALS		4.74	99.9	999	499.5

Effluent Chemical Analyses
March 1995 Sampling
VCS Samoa Packing Company

Table 3
Summary of VCS Samoa Packing Company Effluent Chemistry Sample Results.

Substance	Previous Sample Results, ug/L (ppb)				March 1995 Sample Results ug/L (ppb)
	February 1993	October 1993	February 1994	October 1994	
Inorganics					
Arsenic	9.8	ND (15)	25	25	32
Copper	21	ND (ND)	13	23	9
Lead	4.3	ND (2.5)	ND	ND	ND
Selenium	ND	ND	22	16	33
Zinc	380	400 (540)	660	760	570
Semivolatile organics					
Benzoic Acid	120	ND	ND	ND	ND
Phenol	110	ND	69	120	32
4-Methylphenol	670	1600	770	2800	2400
Total Recoverable Phenols	NA	570	84	280	150

NA = Not Analyzed
ND = Not Detected

1 Values in parentheses are results of reanalyzed samples (see Technical Memorandum for October 1993 sampling episode)

ATTACHMENT I

U.S. EPA CORRESPONDENCE

VCS SAMOA PACKING COMPANY EFFLUENT SAMPLE
NPDES WATER QUALITY CONSTITUENTS
March 1995 Sampling

Attachment I-A
Correspondence Concerning the
October 1993 and February 1994
Priority Pollutant Reports

Engineers
Planners
Economists
Scientists

8 February 1995

OPE30702.EL.PM

Pat Young
American Samoa Project Manager
Office of Pacific Island and Native American Programs
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Dear Pat:

Subject: Response to Comments on Priority Pollutant Monitoring:
American Samoa Canneries (Oct 93 and Feb 94 Samples).

We have received and reviewed your comment letter dated January 17, 1995 concerning the chemistry sampling of October 1993 and February 1994 for the American Samoa tuna canneries. I understand that there were no significant discrepancies noted in the review but there were some minor discrepancies in methods referenced and sample documentation. Your review letter was received after the sampling, analysis, and submittal of the October 1994 sample results and we were not able to implement appropriate changes to that report. The EPA comments will be incorporated into the next sampling for the American Samoa canneries, which is scheduled to occur in March 1995. The attached memorandum provides response to your comments and indicates the changes in the sample analysis that will occur in the future testing events. We appreciate the time and effort given to the review of the reports.

Sincerely,

CH2M HILL

Steve Costa
Project Manager

enclosure

cc: Norman Wei, StarKist Foods
James Cox, VanCamp Seafood
Togipa Tausaga, ASEPA
Sheila Wiegman, ASEPA
Mike Lee, USEPA

CH2M HILL 1111 Broadway, P.O. Box 12681, Oakland, CA 94604-2681 510 251-2426 Fax 510 893-8205

MEMORANDUM CH2MHILL

TO: Pat Young/USEPA
Sheila Wiegman/ASEPA

COPIES: File

FROM: Steve Costa/CH2M HILL/SFO
Karen Glatzel/Glatzel & Associates

DATE: 8 February 1995

SUBJECT: Response to Comments on Priority Pollutant Monitoring Reports: American Samoa Tuna Canneries (Oct 93 and Feb 94 Sampling Reports)

PROJECT: OPE30702.EL.PM

This memorandum provides our response to comments from USEPA concerning the priority pollutant monitoring reports for effluent from StarKist Samoa, Inc. (AS0000019) and VCS Samoa Packing Company (AS0000027) for the October 1993 and February 1994 sampling. The comments from U.S. EPA, dated January 17, 1995 are included as Attachment I.

Response to Comment No. 1

The methods used in the February 1994 sampling report are equivalent methods for the analysis of inorganics to those used in the October 1993 report. The difference in the methods is in the calibration verification process. In both methods a continuous calibration verification is conducted. The EPA 200 series test methods used in the October 1993 sampling (used for drinking water and effluent) has a ±5-percent calibration tolerance. The SW-846 test methods used in the February 1994 sampling (for solid waste and effluent) employ a calibration tolerance of ±10-percent. If the calibration verification is within ±5% the SW-846 method results can be reported as series 200 results. The calibration verification tolerance is the only difference between the methods. Since the testing being done is in the nature of a screening level study, in support of the toxicity tests, we do not believe the difference in the test procedures is significant. The results of the tests would not have been significantly or substantially different based on the test method specification. However, if USEPA believes that the 200 series must be used for these tests we will so instruct the laboratory for future tests.

Response to Comment No. 2

The semi-volatile organics in the February 1994 sampling were analyzed using Method 8270 and employing the Method 625 list of constituents. The method used in the February 1994 sampling report are equivalent methods for the analysis of semi-volatile organics as those used in the October 1993 report. The difference in the methods is in the calibration

verification process. In both methods a continuous calibration verification is conducted. The EPA 625 test method used in the October 1993 sampling has a ±10-percent calibration tolerance. The 8270 test method used in the February 1994 sampling employs a calibration tolerance of ±30-percent. If the calibration verification is within ±10-percent the 8270 method results can be reported as 625 method results. The calibration verification tolerance is the only difference between the methods. Since the testing being done is in the nature of a screening level study, in support of the toxicity tests, we do not believe the difference in the test procedures is significant. The results of the tests would not have been significantly or substantially different based on the test method specification. However, if USEPA believes that the 625 method must be used for these tests we will so instruct the laboratory for future tests.

Response to Comment No. 3

We agree that the graphite furnace method will provide better detection levels. However, we note that salt water interference (in the StarKist effluent) may not permit test results to be reported at the levels of the water quality criteria. We will instruct the laboratory to use the graphite furnace methods 220.2 for copper analysis 272.2 silver analysis in future test episodes.

Response to Comment No. 4

The sampling kits for the February 1994 sampling were shipped to American Samoa as checked baggage with the project staff doing the sampling to insure the kits would be available on site. In typical Hawaiian Airlines fashion, the baggage was lost. There were no 40 ml vials available on the island and the volatile organic samples were collected in 300 ml bottles. These were the only appropriate sample containers available in American Samoa at the time. All other sampling protocols were observed with these samples including filling using zero headspace.

Response to Comment No. 5

The date of sampling for the February 1994 samples was between 1000 on 15 February through 0700 on 16 February 1994. For the same reasons explained in the response to comment No. 4 the sampling was delayed by one day but all records were not correctly adjusted. We apologize for this oversight and any confusion this may have caused. We also note the typographical error in the data summary (Table 2) which should indicate 1994 rather than 1993. In addition we note that holding time for semi-volatiles was met if the end time of the composite sample is taken as the sampling time.

Response to Comment No. 6

We make every effort to meet holding times as well as possible. However, shipping from American Samoa presents unique logistical problems, and makes coordination with laboratory schedules difficult at times. The hold time for cyanide was exceed by one day and the laboratory staff assure us that this should make no measurable difference in the validity of the results. We agree with EPA's review comment that the presence of cyanide is highly improbable (and have requested that USEPA consider eliminating this constituent from the testing program). The tests to date certainly indicate no source of cyanide of concern (all tests have been non-detect for both canneries).

We agree that sulphide may be present, but testing for sulphide is not required under 40 CFR 400.15 (the presence sulphide was indicated as positive during the test for cyanide using method 335.2). We feel that the addition of cadmium nitrate as a preservative leads to more problems than it solves (i.e. disposal of cadmium) and there is no way of meeting the 24-hour hold time for a 24-hour composite sample collected in American Samoa. The chance of detecting trace amounts of cyanide, which is not realistically expected, after the DAF treatment of tuna processing wastes is remote and unrealistic. Cyanide is obviously not a constituent of reasonable concern and it has not been detected in the past. The laboratory has suggested that the collection of samples in a narrow mouth glass bottle with no head space would be an alternative approach to improve the testing procedure without adding cadmium nitrate. However, we feel that the evidence and reasonable expectations indicate that this test is not necessary and suggest that USEPA approve our previous request to drop it from the requirements.

ATTACHMENT I

USEPA Comments on Priority Pollutant Testing
17 January 1995

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

JAN 17 1995

Steven L. Costa
Project Manager
CH2M HILL
1111 Broadway, P.O. Box 12681
Oakland, CA 94604-2681

Re: Priority Pollutant Monitoring Data Review Comments
American Samoa Tuna Canneries (Oct. 93 & Feb. 94)

Dear Mr. Costa:

Please find enclosed our review comments of the Priority Pollutant Monitoring Data for the VCS Samoa Packing Company (AS0000027) and StarKist Samoa, Inc.(AS0000019). Our review covers effluent priority pollutant monitoring data collected in October 1993 and February 1994 submitted to us in September 1994.

As mentioned in the enclosure the review primarily focused on evaluation of appropriate methods, detection limits and QA/QC procedures. Although there are no significant discrepancies noted in the review there are some discrepancies noted relating to methods referenced, use of other methods with lower detection limits, sample documentation, etc.

Please review our findings and make the appropriate corrective actions which address the concerns noted in the review prior to the next priority pollutant monitoring. Please also provide a written response within thirty (30) days of the date of receipt of the letter regarding the review findings. If additional response time is necessary, please provide a written request for an extension to the 30-day response time.

If you have any questions regarding this matter, please contact Pat Young at (415) 744-1594 or Mike Lee at (415) 744-1592.

Sincerely,

Norman L. Lovelace
Chief, Office of Pacific Island
and Native American Programs

Enclosure
cc: Norman Wei, StarKist Samoa
James Cox, VCS Samoa Packing
Togipa Tausaga, ASEPA
Sheila Wiegman, ASEPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698

MEMORANDUM

SUBJECT: Review of Priority Pollutant Monitoring Data from American Samoa Canneries (DCN OPIN007094HJF1)

FROM: Peter Husby
Laboratory Section, P-3-1

THRU: Brenda Bettencourt, Chief
Laboratory Section, P-3-1

TO: Patricia Young
OPINAP, E-4

As requested, I have reviewed four reports of priority pollutant monitoring data from VCS Samoa Packing Company and Starkist Samoa, Inc. The reports cover effluent monitoring performed on samples collected in October 1993 and February 1994 at both facilities. The request for review specifically requested an evaluation of whether appropriate methods, detection limits and QA/QC procedures were followed. The following comments resulted from my review:

1) The method numbers referenced for both the October 1993 sampling and the February 1994 sampling are from Test Methods for Evaluating Solid Waste, SW-846. Within the report for the October event, EPA 200 series methods are correctly referenced. However, the method references for the February sampling are incorrect.

2) The organic analysis method references are correct. Reference to both Method 8270 and 625 should be clarified in the Semi-Volatile Organics results for the February samples.

3) The detection limits are generally adequate and reasonable for the organic analyses. For the inorganics, the detection levels are below water quality criteria except for copper and silver. Graphite furnace methods 220.2 for copper and 272.2 for silver would achieve detection levels below criteria.

4) The volatile organic samples for the February sampling were collected in 300 mL bottles, instead of 40 mL vials. I assume they were collected with zero headspace, but was interested in why the change in bottles was made.

5) Some errors in the sample documentation exist. For instance,

the chain-of-custody form and results for the pesticides from February 1994 lists 2/14/94 as the sample date; it should be 2/15-16/94. Despite the change, the hold time was still exceeded. The results for the Starkist samples all note 2/14/94 as the sample date, however, the data summary notes February 15-16,"**1993**" as the correct date. Since the actual sampling date was 2/15-16/94, the hold time for semi-volatiles, which was reported as missed, was actually met. The minor exceedences of hold times for pesticides should not have significantly affected the data.

6) 14-day hold times for cyanide were missed in the February samples for both facilities. In addition, while I do not anticipate that cyanide would be present in the discharge, it seems reasonable that sulfides may be present. Was lead acetate paper used to test for this, and if so were positive samples treated with cadmium nitrate prior to addition of NaOH? In the presence of sulfides the hold time for cyanide is <24 hours.

Attachment I-B
Correspondence Concerning the
Review Comments on Various
Bioassay Study Reports

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX LABORATORY
1337 S. 46TH STREET BLDG 201
RICHMOND, CA 94804-4698

Febrary 17, 1995

SUBJECT: Review of Joint Cannery Outfall Effluent (DCN #OPIN011O95RJB1) and High Strength Waste Bioassay Testing (DCN #OPIN010O95RJB1) Reports

FROM: Amy L. Wagner (P-3-1) Amy Wagner "Original Signed By"
Laboratory Section

THRU: Brenda Bettencourt, Chief (P-3-1) "Original Signed By"
Laboratory Section

TO: Pat Young, E-4
OPINAP

I have reviewed the results from the reports entitled **Bioassay Testing of High Strength Waste: Starkist Samoa, Inc. and VCS Samoa Packing**, and **Joint Cannery Outfall Effluent Testing** from the October 1994 sampling. I have additional comments regarding the SOP for effluent sampling. The following items should be incorporated in the next testing period. If you have any questions, please feel free to call me at (510) 412-2329.

Laboratory Report of Bioassay Results for High Strength Waste Sampling

1. p. 9, Table 2. The salinity that the mysids were shipped in and any salinity acclimation before testing should be stated in the subsequent reports. The mysids should only experience a change in salinity of $\pm$ 2 ppt per day during acclimation.

2. Appendix Table 12. In the sanddab reference toxicant tests, unacceptably low levels of dissolved oxygen (D.O.) were measured. All test replicates with D.O. below 60% of saturation should be aerated.

Attachment II: Standard Operating Procedures Joint Cannery Outfall Effluent Sampling for Chemistry and Bioassay Toxicity Testing:

1. p. 5, #4: The procedure should also specify that each vial will be checked for air bubbles by slapping it inverted against the palm of the hand. If air bubbles can be seen, more sample should be added to the vial without overfilling.

2. p. 6, #3: A description of sample preservation and verification of pH should be included in this section. Only VOA vials should be preserved before sampling.

3. p. 6, #5: The packaging section should specify that sample jars should be wrapped in a minimum of 2 layers of bubble wrap for shipping.

4. Some general comments about health and safety protective gear (e.g., safety goggles, gloves) should be mentioned in the SOP.

Attachment IV: Laboratory Report, 96-hour Acute Bioassay, Joint Cannery Outfall Effluent Samples

1. p.2, Section 2.2, Sample Preparation: Since the tests were conducted using hypersaline brine to adjust effluent salinity, a brine control should have been conducted. Brine control and dilution water control results must be compared using a t-test at a p= 0.05 level.

2. p. 5, Table 1: An effort should be made to maintain the test conditions as specified in the test methods (EPA 600/4-90/027). The test method specifies that the age of test organisms should be 1-5 days old, with a 24 hour range in age, and the test temperature should be 20 $\pm$ 1° C or 25 $\pm$ 1 °C.

General Comments

1. I have been recently informed that penaeid shrimp in Hawaiian aquaculture facilities have been devastated due to a virus. Every attempt should be made to acquire penaeid shrimp, but if they are not available on the mainland for the spring 1995 testing, I again recommend that the laboratory use mysid shrimp, *Mysidopsis bahia*, as a surrogate species. As specified in the 10/14/94 memo, brine shrimp must be added to test containers daily and a water change using the original effluent sample should be conducted after 48 hours.

cc: Debra Denton, Whole Effluent Toxicity Coordinator (W-5-1)
Allan Ota, Wetlands and Sediment Management Section (W-3-3)
Steven Costa, CH_2M Hill
Kurt Kline, Advanced Biological Testing, Inc.

Attachment I-C
Correspondence Concerning the
Requests and Approvals for
Modification of Effluent Chemistry Tests

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

March 1, 1995

Steven L. Costa
Project Manager
CH2M Hill
P.O. Box 12681
Oakland, CA 94604-2681

Re: American Samoa Canneries' Effluent Chemistry Testing

Dear Steve:

We have reviewed the February 1994 results of the priority pollutant analyses for the canneries' effluents, as required by their respective NPDES permits, as well as their requests of February 2, 1995, to reduce the scope of these biannual tests. Based on our review of the four priority pollutant analyses conducted under the present permits, metals analyses collected under the previous permits, and results of the American Samoa Environmental Protection Agency's toxicity study of Pago Pago Harbor, we agree that the scope of these tests can be reduced as indicated below. However, we will require a complete effluent priority pollutant scan to be conducted for each cannery when they apply for permit renewals. The tests can be reduced as follows:

1. Delete the tests for cyanide, pesticides and PCBs, as these constituents have not been detected in the scans and there is no reason to believe the cannery effluents will normally contain these constituents.

2. Eliminate the tests for VOCs. We agree with your assessment that laboratory contamination may have been the reason acetone was detected and that the levels of constituents detected (xylene, toulene and bromoform) are not significant. Also, under normal circumstances, VOC loadings are not expected in cannery effluent and only small quantities of VOC's have only been sporadically detected to date.

3. Continue testing for the following metals: arsenic, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc. Eliminate testing for other metals as they were not detected in the four scans.

   Although chromium, mercury and lead have either not been detected in the four priority pollutant scans conducted or they were detected in very low quantities, some traces of these constituents have been detected in past effluent monitoring tests. Thus we are requiring continued monitoring for these metals and source studies for those metals found in

high concentrations, such as zinc, as triggered under the NPDES permit.

Our Quality Assurance Management Section is reviewing your February 8, 1995 response to our comments regarding the priority pollutant reports of October 1993 and February 1994. Any significant comments impacting the analyses you will be conducting in mid-March will be forwarded to you as soon as their review is completed.

Please call Pat Young at 415/744-1594 if you have any questions regarding the above.

Sincerely,

Norman E. Lovelace, Chief
Office of Pacific Island and Native
American Programs (E-4)

cc: Jim Cox, Van Camp Seafood Company, Inc.
Norman Wei, StarKist Seafood Company
Michael Macready, VCS Samoa Packing Company
Barry Mills, StarKist Samoa, Inc.
Tony Tausaga, American Samoa EPA
Sheila Wiegman, American Samoa EPA

Engineers
Planners
Economists
Scientists

2 February 1995

PDX30702.EL.T4

Patricia N.N. Young
American Samoa Program Manager
Office of Pacific Islands and Native American Programs
U.S. Environmental Protection Agency
75 Hawthorne Street (E-4)
San Francisco, California 94105

Dear Pat:

Subject: VCS Samoa Packing Effluent Chemistry Testing

Enclosed are two copies of a Technical Memorandum describing the results of the fourth priority pollutant analyses done under VCS Samoa Packing's NPDES permit requirements. I am forwarding the results of the StarKist Samoa analyses under separate cover. The results of the concurrent bioassay tests were mailed on 28 January 1995.

Based on the results of the testing done over the last two years we have the following requests to reduce the scope of the testing:

[1] Cyanide has not been detected in the effluent in any of the four tests (this is also true of the StarKist Samoa tests) and there is no reason to expect cyanide in the cannery effluent. Therefore, **we request that EPA allow VCS Samoa Packing to drop the test for cyanide** as required under condition D.2 of their NPDES permit.

[2] No pesticides or PCBs (EPA method 608) have been detected in the effluent in any of the four tests (this is also true of the StarKist Samoa tests) and there is no reason to expect such constituents in the cannery effluent. Therefore, **we request that EPA allow VCS Samoa Packing to drop the test for pesticides/PCBs** as required under condition D.2 of their NPDES permit.

[3] During testing for VOCs (EPA method 624) only sporadic detection of a few compounds has occurred. There have been seven samples test-

ed: one for each of the first three sampling episodes and four samples for the last sampling episode. Since switching laboratories after the second test only xylene (one test out of five) and acetone (one test out of five) have been detected. Acetone was also detected in the trip blank for the sampling in which it was detected. It is noted that there are either no criteria established or the detected concentrations are below criteria for all of the organics detected. In addition, there is no reason to normally expect VOC loadings from the tuna canning process wastewater treated in a DAF unit. Therefore, **we request that EPA allow VCS Samoa Packing to drop the test for VOCs** as required under condition D.2 of their NPDES permit.

[4] During testing for metals, only arsenic, copper, lead, selenium, and zinc have been detected (only zinc has been detected in all four tests). The metals detected in tests of StarKist Samoa effluent have shown arsenic, cadmium, copper,silver, and zinc. The combined suite of metals detected in the effluent from the two canneries is not expected to change after four testing episodes. Therefore, **we request that EPA allow VCS Samoa Packing to test only for these metals (As, Cd, Cu, Pb, Se, Zn, Ag) during the semiannual tests and drop the tests for the other metals** as required under condition D.2 of their NPDES permit.

We are scheduling the next sampling for late February or early March and would appreciate your comments on the above requests prior to that time. I have sent this information to Sheila Wiegman at ASEPA and Amy Wagner at USEPA. If you have any questions please feel free to call me at your convenience. Thank you for your time and consideration.

Sincerely,

CH2M HILL

Steven L. Costa
Project Manager

cc: James Cox, Van Camp Seafood Company (with 1 copy of enclosure)
Michael Macready, VCS Samoa Packing Company (with 1 copy of enclosure)
Amy Wagner, USEPA Region IX (with 1 copy of enclosure)

Attachment I-D
Correspondence Concerning the
October 1994
Priority Pollutant Reports

MEMORANDUM CH2M HILL

TO: File

COPIES: Include in StarKist Samoa report on March 1995 priority pollutant sampling
Include in Samoa Packing report on March 1995 priority pollutant sampling

FROM: Steve Costa/CH2M HILL/SFO

DATE: 3 July 1995

SUBJECT: Response to USEPA comments on October 1994 sampling report

PROJECT: 107091.EL.R5 (OPE30702)

This memorandum responds to comments provided by USEPA on the fourth sampling episode. The EPA comments are presented in the attached memorandum of 8 March 1995 (McNaughton to Young) and transmitted to CH2M HILL in the attached letter of 3 April 1995 (Young to Costa). The referenced correspondence is provided as Attachment A to this memorandum. Item numbers referred to below are from the 8 March memorandum. The transmittal letter clarifies comment 1 and requests that we respond to and/or note the comments 2 through 7 for future reference. The comments were received to late to be addressed entirely in the fifth sampling (March 1995) but will be incorporated into future sampling and testing episodes.

Response to Comment 1. This comment is discussed further in the transmittal letter from EPA and previous communications between CH2M HILL and EPA. We will plan on a complete priority pollutant scan during the permit renewal process.

Response to Comment 2. We believe the level of detail in the CH2M HILL reports (technical memorandums) and in the laboratory reports attached to the CH2M HILL reports on the priority pollutant scans are appropriate for the purposes of the studies being done. We will instruct the laboratories to perform and present the level of detail specified by EPA and any specific procedures required by EPA. Method 625 for semivolatile organics is being requested, as appropriate, from the laboratory for all future sampling and methods will be clearly referenced in the reports.

Response to Comment 3. This comments notes QA/QC information that was not reported, but it is not clear that this information is required for the studies being performed. As discussed above, we believe the level of detail in the reports and in the laboratory reports attached to the CH2M HILL reports on the priority pollutant scans are appropriate for the purposes of the studies being done. We will instruct the laboratories to perform and pres-

ent the level of detail specified by EPA and follow any specific procedures required by EPA.

Response to Comment 4. The correct value is 280 µg/l. This value will be corrected in the summary tables prepared for future reports.

Response to Comment 5. The VOC samples are routinely acidified. This is indicated in the revised standard operating procedures provided in the bioassay report for the March 1995 sampling (CH2M HILL, 20 June 1995). Future reports will indicate this procedure.

Response to Comment 6. We have been using containers provided by the analytical laboratories. We will check this procedure and modify as necessary for future collections.

Response to Comment 7A. Silver has been analyzed by ICP in the past. It will be analyzed by AA in the future, per previous comments from USEPA. The laboratory methods used are those listed in the laboratory reports. Table 1 in the memorandum will be corrected in future reports.

Response to Comment 7B. The laboratory methods used are those listed in the laboratory reports. Table 1 in the memorandum will be corrected in future reports. The difference in detection limits for selenium between StarKist Samoa and VCS Samoa Packing samples is due to the matrix interference caused by salt water in the StarKist effluent. This is because StarKist uses sea water for thawing fish and Samoa Packing uses freshwater.

ATTACHMENT A

USEPA Comments on October 1994 Sampling for Priority Pollutant Evaluation (3 April 1995 / 8 March 1995)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

April 3, 1995

Steven L. Costa
Project Manager
CH2M Hill
P.O. Box 12681
Oakland, CA 94604-2681

Re: QA/QC Review of American Samoa Canneries' Effluent Chemistry Testing

Dear Steve:

Attached please find a review of the technical report on the chemical analysis of the canneries' effluent, October 1994 sampling, which was conducted by our Quality Assurance Management Section. We note that the review of the data found that pesticides, cyanide and VOCS were either not present or present in the effluent at levels not considered harmful to the environment. As a conservative measure, because the reviewer felt that data quality could have been more completely documented, it was recommended that historical quality control data from previous samplings be submitted, as well as another complete priority pollutant scan be conducted, prior to consideration of eliminating VOC testing.

Considering the nature of the effluent, conditions under which the sampling and shipping are conducted, and the insignificant levels of these constituents detected, we feel that tests for cyanide, pesticides, PCBs and VOCs can be eliminated in future samplings. As previously discussed with you, we are more concerned with the high levels of zinc and copper found in Samoa Packing's effluent and understand that further studies are underway to determine the sources and reduce the loadings. Thus, we will require continued testing for metals which have been detected in past samples: arsenic, cadmium, copper, lead, mercury, selenium, silver and zinc. Please note that we will require a complete priority scan results to be submitted with the canneries' next permit application.

The QA/QC review also found a number of discrepancies or inconsistencies in the reports which are noted in Comments 2-7. Please respond and/or note for future sampling and reports.

Should you have any questions, please call me at (415) 744-1594.

Sincerely,

for Norman L. Lovelace
Chief
Office of Pacific Islands (E-4)

Enclosure

cc: Jim Cox, Van Camp Seafood Company, Inc.
Norman Wei, StarKist Seafood Company
Michael Macready, VCS Samoa Packing Company
Barry Mills, StarKist Samoa, Inc.
Tony Tausaga, American Samoa EPA
Sheila Wiegman, American Samoa EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Rcd 3/14/95
Cpy to Mike La

March 8, 1995

MEMORANDUM

SUBJECT: Technical Memoranda for the Chemical Analysis of Effluent October 1994 Sampling for VCS Samoa Packing Co. and Starkist Samoa, American Samoa (EPA QAMS Document Control Numbers (DCNs) NPDS019095VSF1 and NPDS020095VSF1, respectively)

FROM: Eugenia McNaughton, Ph.D., Environmental Scientist
Quality Assurance Management Section (QAMS), P-3-2

THROUGH: Vance S. Fong, P.E., Chief
Quality Assurance Management Section

TO: Pat Young, American Samoa Program Manager
Office of Pacific Island, E-4

As requested, the subject technical memoranda, Chemical Analysis of Effluent, October 1994 Sampling, prepared by CH2M Hill for VCS Somoa Packing Co. (VCS) and Starkist Samoa, Inc. (Starkist), and dated January 27, 1995, were reviewed. The review was based on information provided in 40 CFR Part 136, in the EPA memorandum dated January 17, 1995 and the response to EPA comments by CH2M Hill dated February 8, 1995.

The technical memoranda were reviewed to ascertain whether the deletion of volatile organic compounds (VOCs) analyses can be recommended as requested in the CH2M Hill letter of February 2, 1995. The memoranda were also reviewed for quality assurance/quality control (QA/QC) of methods and procedures. In addition to comments related to these issues, a number of discrepancies or inconsistencies were identified during the review of the memoranda, and are presented below.

Although a review of the data indicates that pesticides, cyanide and VOCs are either not present or present in the effluent at levels that are not considered harmful to the environment, it is apparent that data quality could be more completely documented. QAMS recommends that the complete analysis be repeated for the next test event. At the same time, if the historical data could be presented with supporting QC data, a better informed decision could be made regarding the testing program.

Comments

1. Since positive results for bromoform, 2-butanone, acetone, toluene, and xylenes are reported in Table 3 of the memoranda, a more conservative approach should be taken in considering the elimination of VOC analyses for Starkist and VCS. Quality control data from the previous samplings should be reviewed before a recommendation to scale back or eliminate sampling and analysis for VOCs can be made.

2. The QA/QC procedures could not be fully evaluated due to the lack of relevant information in the memoranda. There are no statements regarding accuracy and precision in the reports. As the response to comments memorandum from CH2M Hill indicates, the 200 series methods for metals and EPA Method 625 for semivolatile organic compounds (SVOCs) employ tighter criteria for calibration verification than do SW-846 methods. It should be noted that while Table 1 indicates EPA 8270/625 for the analysis of SVOCs, the sample results reported in Attachment II for SVOCs indicate that Method 625 was followed. This discrepancy should be addressed in future reports.

3. Quality control data was lacking for the following analytes:

   A. The VOC analysis data included the acceptable percent recoveries for surrogate compounds and acceptable results for method blank analysis. No information was provided concerning matrix spike (MS) or matrix spike duplicate (MSD) percent recoveries or relative percent difference (RPD).

   B. The semi-volatile organic compounds (SVOCs) analysis report included the acceptable percent recoveries for surrogate compounds and acceptable results for a method blank analysis. No information was provided concerning percent recovery or RPD for MS/MSD analyses.

C. The metals report included an acceptable method blank; however, percent recoveries for laboratory control sample (LCS) and matrix spike analyses, and the RPD for duplicate analysis were not reported.

D. The total recoverable phenol and cyanide analyses report contained no QC information. Method blank results, percent recoveries for LCS and matrix spike analyses, and the RPD for duplicate analysis were not reported.

4. [VCS Samoa Packing Co.; Table 3, Summary of VCS Samoa Packing Co. Effluent Chemistry Sample Results; Attachment II, Laboratory Data Report] Table 3 lists the total phenol result for the October 1994 sampling as 28 ug/L; however the analytical results for Inorganics in Water presented in Attachment II indicate a concentration of 0.28 mg/L, equivalent to 280 ug/L. It is recommended that the original laboratory report be reviewed to ascertain the correct concentration, and if necessary, Table 3 be revised to indicate 280 ug/L total phenol.

5. [VCS and Starkist Memoranda: Table 1, Effluent Sample Analyses and Handling Procedures; Attachment I, Chain of Custody Forms] Although both Tables 1 of the VCS and Starkist memoranda indicate that the samples for VOC analysis were collected in 40 mL vials and preserved by chilling to 4°C, the chain of custody forms indicate that these samples were also preserved with hydrochloric acid. If the samples were not acified, the 7-day holding time established for benzene, ethylbenzene, and toluene was exceeded. If these samples are routinely acified, Table 1 should indicate that fact.

   In addition, although the CH2M Hill response to comments indicates that samples collected in February were collected without headspace, it is unclear whether the samples were acidified.

6. [VCS and Starkist: Table 1, Effluent Sample Analyses and Handling Procedures] Table 1 of the memoranda indicates that samples for phenol analysis are collected in a 500 mL plastic container. 40 CFR Part 136 and Methods for Chemical Analysis of Water and Wastes specify glass containers only.

7. [VCS and Starkist: Table 1, Effluent Sample Analyses and Handling Procedures; Attachment II, Laboratory Data Report, Analytical Results, Metals in Water]

A. In both memoranda, Table 1 lists the analytical method for silver as EPA 7760, an atomic absorption (AA) direct aspiration method, while the analytical results for metals in water from attachment II indicates that silver was analyzed by EPA 6010, inductively coupled plasma (ICP) spectroscopy.

B. In the Starkist memorandum, Table 1 indicates selenium analysis by EPA 7740; however, the analytical results for selenium in attachment II indicate that selenium was analyzed by EPA 6010. In addition, the reporting detection limit for selenium for the Starkist effluent is 50 ug/L (a typical Method 6010 detection limit), while the reporting detection limit for the VCS effluent is 5 ug/L (a typical Method 7740 detection limit). The discepancy regarding methdos should be addressed in future reports. The laboratory report should be consulted as to which value is correct and the report revised accordingly.

Questions or comments regarding this review should be referred to Eugenia McNaughton, EPA QAMS, at (415) 744-1498.

ATTACHMENT II

CHAIN OF CUSTODY FORMS

VCS SAMOA PACKING COMPANY EFFLUENT SAMPLE
March 23-24, 1995

CH2MHILL
APPLIED SCIENCES LABORATORY

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

CH2M Hill Project #: OPE 327.02.EL.L5
Purchase Order #:
Project Name: JEO-VCS SAMOA PACKING
Company Name/CH2M HILL Office:
Project Manager & Phone #: STEVE COSTA 510-251-2426
Report Copy to: SAME
Requested Completion Date:
Sampling Requirements: SDWA NPDES RCRA OTHER
Sample Disposal: SEE BELOW Dispose Return

LAB TEST CODES:

SHADED AREA– FOR LAB USE ONLY
Lab 1 #: Lab 2 #:
Quote #: Kit Request #:
Project #:
No. of Samples: Page 1 of 1
Login: LIMS Ver:

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	Matrix AIR	CLIENT SAMPLE ID (9 CHARACTERS)	# OF CONTAINERS	TOTAL PHENOLS EPA H20.1	SEMIVOLATILES EPA 625	ARSENIC EPA 206.2	CADMIUM - EPA 213.2	CHROMIUM - EPA 200.7	COPPER EPA 220.2	LEAD EPA 239.2	MERCURY EPA 245.1	SELENIUM EPA 270.2	SILVER EPA 272.2	ZINC EPA 200.7	REMARKS	LAB 1 ID	LAB 2 ID
3/24/95		X		X			VCS5-SVD	1		X												
"		X		X			VCS5-TPH	1	X													
"		X		X			VCS5-MTL	1			X	X	X	X	X	X	X	X	X			

Sampled By & Title: S.L. COSTA — Date/Time: 3/24/95
Received By: (Please sign and print name) — Date/Time:
Received By: (Please sign and print name) — Date/Time:
Received By: (Please sign and print name) — Date/Time:
Work Authorized By: (Please sign and print name)

Relinquished By: (Please sign and print name) — Date/Time:
Relinquished By: (Please sign and print name) — Date/Time:
Relinquished By: (Please sign and print name) — Date/Time:

Shipped Via: UPS BUS Fed-Ex Hand Other DHL
Shipping #:

Remarks: SAVE METALS SAMPLE FOR POSSIBLE RE RUN (FRESH WATER, NO CH3O)

QC Level: 1 2 3 Other:
COC Rec | ICE
Ana Req | TEMP
Cust Seal | Ph

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3. Instructions in full on reverse.
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PHG	CCR

3 PIECES	WEIGHT
1	34

1 SHIPPER'S ACCOUNT No.: 92113059

2 SHIPPER'S REFERENCE: OPE 30702.EL.V5 T3

4 SENT BY (COMPANY NAME)
CH2M HILL
LEAVE DEPARTMENT/SUITE
STEVE COSTA
ADDRESS
1111 BROADWAY
CITY | STATE | PROVINCE | COUNTRY
OAKLAND, CA USA
ZIP/POST CODE: 94607
PHONE: 510-251-2426

5 RECIPIENT (COMPANY NAME)
GTEL ENVIRONMENTAL LAB
ATTN. (NAME/DEPARTMENT/SUITE)
BILL SVOBODA
ADDRESS DHL CANNOT DELIVER TO A PO BOX
480 PIKE LANE
CITY | STATE | PROVINCE | COUNTRY
CONCORD, CA USA
ZIP/POST CODE: 94520
PHONE: 510-685-7852

7 DESCRIPTION OF CONTENTS
WATER SAMPLES FOR ANALYSIS

LENGTH | WIDTH | HEIGHT | DIMENSIONAL/CHARGED WEIGHT

8 COMPLETE FOR WORLDWIDE PACKAGE EXPRESS (INTERNATIONAL DUTIABLE SHIPMENTS)
DECLARED VALUE FOR CUSTOMS (SPECIFY CURRENCY): 0
COMMODITY/TARIFF CODE
SHIPPER'S EIN/SSN OR VAT NUMBER
EXPORT LICENSE NUMBER/SYMBOL | EXPIRY DATE
THIS SHIPMENT LICENSED BY THE UNITED STATES FOR ULTIMATE DESTINATION ... DIVERSION CONTRARY TO U.S. LAW PROHIBITED IF ULTIMATE DESTINATION IS SOUTH AFRICA OR NAMIBIA, RESALE TO OR DELIVERY, DIRECTLY OR INDIRECTLY, TO OR FOR USE BY OR FOR POLICE OR MILITARY ENTITIES PROHIBITED.

IMPORT CHARGES | 9
DUTY | OTHER | TOTAL
☐ RECEIVER ☒ SHIPPER
CHARGE TO: A/C NUMBER

10 METHOD OF PAYMENT
Assumed to be sender unless otherwise specified
☐ BILL RECIPIENT
☐ 3rd Party ACCOUNT NUMBER
☐ CASH $
☐ CHECK $ CHECK No.
☐ CREDIT CARD TYPE EXPIRY DATE
CREDIT CARD NUMBER

6 SERVICES	CHARGES
DOCUMENT ☐ EXPRESS DOCUMENT ☐	
WORLDWIDE PACKAGE EXPRESS ☒ (INTERNATIONAL DUTIABLE)	
WORLDMAIL ☐ 1st CLASS ☐ 2nd CLASS	
SATURDAY SERVICE ☐	
INSURANCE Enter amount ☐ YES ☐ NO	
PROOF OF DELIVERY ☐ (POD)	
OTHER ☐	
ONFORWARDING ☐	
EXPRESS CENTER/DROP BOX ☐	
TOTAL	

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CH2M HILL

APPLIED SCIENCES LABORATORY

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

CH2M Hill Project #: OPE30702 EL L5

Purchase Order #:

Project Name: JCO – VCS SAMOA PACKING

Company Name CH2M Hill Office:

Project Manager & Phone #: Mr. [ ] Ms. [ ] Dr. [X] STEVE COSTA 510-251-2426

Report Copy to: SAME

Requested Completion Date:

Sampling Requirements: SDWA [ ] NPDES [X] RCRA [ ] OTHER [ ]

Sample Disposal: SEE BELOW — Dispose [X] Return [ ]

LAB TEST CODES

FOR LAB USE ONLY — Lab 1 # / Lab 2 #

Quote # / Kit Request #

Project #

No. of Samples / Page of

Login # C30302 / LIMS Vol

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	Matrix AIR	CLIENT SAMPLE ID (9 CHARACTERS)	# OF CONTAINERS	TOTAL PHENOLICS EPA 420.1	SEMI VOLATILES EPA 625	ARSENIC EPA 206.2	CADMIUM-EPA 200.7	CHROMIUM-EPA 200.7	COPPER EPA 220.2	LEAD EPA 239.2	MERCURY EPA 245.1	SELENIUM EPA 270.2	SILVER EPA 272.2	ZINC EPA 200.7	REMARKS	LAB 1 ID	LAB 2 ID
3/24/95		X		X			VCS5-SVD	1		X										ICE MELTED ENROUTE, RECVD AT 15°C	04	
"		X		X			VCS5-TPH	1	X												05	
"		X		X			VCS5-MTL	1			X	X	X	X	X	X	X	X	X		06	

Sampled By & Title (Please sign and print name): S.L. COSTA — Date/Time: 3/24/95

Received By (Please sign and print name): BRIAN, COURIER — Date/Time: 1005 3/27/95

Received By (Please sign and print name): — Date/Time:

Received By (Please sign and print name): — Date/Time:

Work Authorized By (Please sign and print name):

Relinquished By (Please sign and print name): — Date/Time:

Relinquished By (Please sign and print name): — Date/Time:

Relinquished By (Please sign and print name): — Date/Time:

QC Level: 1 2 3 Other — COC Rec — Ana Req — Cust Seal NO — ICE — TEMP 5°C — Ph

Shipped Via: UPS BUS Fed-Ex Hand Other DHL — Shipping #

Remarks: SAVE METALS SAMPLE FOR POSSIBLE RE-RUN (FRESH WATER, NO CH2O)

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ATTACHMENT III

LABORATORY DATA REPORT
GTEL Environmental Laboratories, Inc.

VCS SAMOA PACKING COMPANY EFFLUENT SAMPLE
March 23-24, 1995

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

Client Number: CHH02CHH02
Consultant Project Number: OPE30702ELL5
Project ID: JCO-Starkist Samoa
Work Order Number: C5-03-0307
Date Revised: 04-12-95

April 12, 1995

Steve Costa
CH2MHill Applied Sciences Laboratory
1111 Broadway, Suite 1200
Oakland, CA 94607-4046

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 03/27/95.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

For

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS

Metals in Water

GTEL Sample Number			06	BLU 032895		
Client Identification			VCS5-MTL	METHOD BLANK		
Date Sampled			03/24/95	–		
Date Prepared (Method 3005[b])			03/28/95	03/28/95		
Date Analyzed (Method 200.7)			03/29/95	03/29/95		
Date Analyzed (Method 200 Series)			04/01-05/95	04/01-05/95		
Date Prepared and Analyzed (Method 245.1)			03/31/95	03/31/95		
Analyte	EPA Method[a]	Detection Limit, ug/L	Concentration, ug/L			
Arsenic	EPA 206.2	50	32	<50		
Cadmium	EPA 200.7	5	<5	<5		
Chromium, total	EPA 200.7	10	<5	<10		
Copper	EPA 220.2	2	9	<2		
Lead	EPA 239.2	5	<5	<5		
Mercury	EPA 245.1	0.4	<0.4	<0.4		
Selenium	EPA 270.2	5	33	<5		
Silver	EPA 272.2	2	<2	<2		
Zinc	EPA 200.7	20	570	<20		
Detection Limit Multiplier			1	1		

a. Methods for chemical analysis of water and wastes, EPA 600/4-79-020, March 1982.
b. Sample preparation by Modified EPA Method 3005. Acid concentration have been adjusted to allow analysis by GFAAS.

Client Number: CHH02CHH02
Consultant Project Number: OPE30702ELL5
Project ID: JCO-Starkist Samoa
Work Order Number: C5-03-0307
Date Revised: 04-12-95

ANALYTICAL RESULTS
Semi-Volatile Organics in Water EPA Method 625[ab]

GTEL Sample Number		04	032895 BNAW		
Client Identification		VCS5-SVO	METHOD BLANK		
Date Sampled		03/24/95	--		
Date Extracted		03/28/95	03/28/95		
Date Analyzed		03/30/95	03/30/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Phenol	10	150	<10		
bis(2-Chloroethyl)ether	10	<50	<10		
2-Chlorophenol	10	<50	<10		
1,3-Dichlorobenzene	10	<50	<10		
1,4-Dichlorobenzene	10	<50	<10		
1,2-Dichlorobenzene	10	<50	<10		
2-Methylphenol	10	<50	<10		
bis-(2-Chloroisopropyl)ether	10	<50	<10		
4-Methylphenol	10	2400	<10		
N-Nitroso-di-propylamine	10	<50	<10		
Hexachloroethane	10	<50	<10		
Nitrobenzene	10	<50	<10		
Isophorone	10	<50	<10		
2-Nitrophenol	10	<50	<10		
2,4-Dimethylphenol	10	<50	<10		
bis(2-Chloroethoxy)methane	10	<50	<10		
2,4-Dichlorophenol	10	<50	<10		
1,2,4-Trichlorobenzene	10	<50	<10		
Naphthalene	10	<50	<10		
Hexachlorobutadiene	10	<50	<10		
4-Chloro-3-methylphenol	10	<50	<10		
2-Methylnaphthalene	10	<50	<10		
Hexachlorocyclopentadiene	10	<50	<10		
2,4,6-Trichlorophenol	10	<50	<10		
2,4,5-Trichlorophenol	50	<250	<50		
2-Chloronaphthalene	10	<50	<10		
Dimethylphthalate	10	<50	<10		
Acenaphthylene	10	<50	<10		
Acenaphthene	10	<50	<10		
2,4-Dinitrophenol	50	<250	<50		
4-Nitrophenol	50	<250	<50		
Dibenzofuran	10	<50	<10		

Client Number: CHH02CHH02
Consultant Project Number: OPE30702ELL5
Project ID: JCO-Starkist Samoa
Work Order Number: C5-03-0307
Date Revised: 04-12-95

ANALYTICAL RESULTS
Semi-Volatile Organics in Water EPA Method 625[ab]

GTEL Sample Number		04[cd]	032895 BNAW		
Client Identification		VCS5-SVO	METHOD BLANK		
Date Sampled		03/24/95	--		
Date Extracted		03/28/95	03/28/95		
Date Analyzed		03/30/95	03/30/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
2,4-Dinitrotoluene	10	<50	<10		
2,6-Dinitrotoluene	10	<50	<10		
Diethylphthalate	10	<50	<10		
4-Chlorophenyl-phenylether	10	<50	<10		
Fluorene	10	<50	<10		
4,6-Dinitro-2-methylphenol	50	<250	<50		
N-Nitrosodiphenylamine	10	<50	<10		
4-Bromophenyl-phenylether	10	<50	<10		
Hexachlorobenzene	10	<50	<10		
Pentachlorophenol	50	<250	<50		
Phenanthrene	10	<50	<10		
Anthracene	10	<50	<10		
Di-n-butylphthalate	10	<50	<10		
Fluoranthene	10	<50	<10		
Pyrene	10	<50	<10		
Butylbenzylphthalate	10	<50	<10		
3,3'-Dichlorobenzidine	20	<100	<20		
Benzo(a)anthracene	10	<50	<10		
bis(2-Ethylhexyl)phthalate	10	<50	<10		
Chrysene	10	<50	<10		
Di-n-octylphthalate	10	<50	<10		
Benzo(b)fluoranthene	10	<50	<10		
Benzo(k)fluoranthene	10	<50	<10		
Benzidine	20	<100	<20		
Benzo(a)pyrene	10	<50	<10		
Indeno(1,2,3-cd)pyrene	10	<50	<10		
Dibenz(a,h)anthracene	10	<50	<10		
Benzo(g,h,i)perylene	10	<50	<10		
Aniline	10	<50	<10		
Carbazole	10	<50	<10		
Detection Limit Multiplier		5	1		
d5-Nitrobenzene surr., % rec.		87.0	91.9		
2-Fluorobiphenyl surr., % rec.		83.0	90.4		
d14-Terphenyl surr., % rec.		95.0	106		
d5-Phenol surr., % rec.		55.0	45.6		
2-Fluorophenol surr., % rec.		68.5	69.2		
2,4,6-Tribromophenol surr., % rec.		87.0	97.9		

a. Test Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, March, 1983.
b. Federal Register, Vol. 49, October 26, 1984. Sample extraction by EPA Method 3510.
c. Data obtained from multiple dilutions.
d. Sample diluted due to high concentration of non-target compounds.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Client Number: CHH02CHH02
Consultant Project Number: OPE30702ELL5
Project ID: JCO-Starkist Samoa
Work Order Number: C5-03-0307
Date Revised: 04-12-95

ANALYTICAL RESULTS
Semi-Volatile Organics in Water
EPA Method 8270[ab]

GTEL Sample Number		04[c]	032895 BNAW		
Client Identification		VCS5-SVO	METHOD BLANK		
Date Sampled		03/24/95	–		
Date Extracted		03/28/95	03/28/95		
Date Analyzed		03/30/95	03/30/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzyl alcohol	10	<50	<10		
Benzoic acid	50	<250	<50		
4-Chroaniline	10	<50	<10		
2-Nitroaniline	50	<250	<50		
3-Nitroaniline	50	<250	<50		
4-Nitroaniline	50	<250	<50		
Detection Limit Multiplier		5	1		
d5-Nitrobenzene surr., % rec.		87.0	91.9		
2-Fluorobiphenyl surr., % rec.		83.0	90.4		
d14-Terphenyl surr., % rec.		95.0	106		
d5-Phenol surr., % rec.		55.0	45.6		
2-Fluorophenol surr., % rec.		68.5	69.2		
2,4,6-Tribromophenol surr., % rec.		87.0	97.9		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3510.

b. Federal Register, Vol. 49, October 26, 1984. Sample extraction by EPA Method 3510.

c. Sample diluted due to high concentration of non-target compounds.

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Midwest Region
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

GTEL Client Number: CHH02.CHH02
Project ID (Name): OPE30702ELL5
JCO
Starkist Samoa
Work Order Number: W5-03-0329
Concord Work Order: C5030307
Date Reissued: 04-13-95

April 13, 1995

Dr. Steve Costa
c/o GTEL Environmental Laboratories, Inc.
4080 Pike Lane
Concord, CA 94520

Dear Dr. Steve Costa:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 03-28-95.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the California Department of Health Services under Certification Number 1845.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

John O. Scoular
Q.A. Manager for,
Terry R. Loucks
Laboratory Director

GTEL Client Number: CHH02.CHH02
Project ID (Name): OPE30702ELL5
JCO
Starkist Samoa
Work Order Number: W5-03-0329
Concord Work Order: C5030307
Date Reported: 04-03-95
Date Reissued: 04-13-95

ANALYTICAL RESULTS

Inorganics

GTEL Sample Number			01			
Client Identification			VCS5-TPH			
Date Sampled			03-24-95			
Date Analyzed			03-31-95			
Analyte	Method	QL* & Units	Concentration			
Total Recoverable Phenols	EPA 420.1	0.02 mg/L	**0.15**			

* Quantitation Limit

GTEL Client Number: CHH02.CHH02
Project ID (Name): OPE30702ELL5
JCO
Starkist Samoa
Work Order Number: W5-03-0329
Concord Work Order: C5030307
Date Reported: 04-03-95
Date Reissued: 04-13-95

Table 3

BLANK REPORT

Inorganics

Analyte	Initial Calibration Blank	Preparation Blank	Units
Total Recoverable Phenols	<0.010	<0.010	mg/L